



Evergreen Recycling and Disposal Facility
2625 East Broadway
Northwood, OH 43619
(419) 666-5136
(419) 697-9534

July 17, 2015

Mr. Mohammed Smidi
Ohio EPA/Northwest District Office
Division of Air Pollution Control
347 North Dunbridge Road
Bowling Green, OH 43402

**Re: Evergreen Recycling and Disposal Facility
Facility ID No. 03-87-00-0259
1st Semi-Annual NSPS Report - 2015**

Dear Mr. Smidi:

Evergreen Recycling and Disposal Facility, Inc. respectfully submits this New Source Performance Standards (NSPS) Semi-Annual Report for the Evergreen RDF. In accordance with 40 CFR Part 60, Subpart WWW, the attached document serves as the landfill gas collection and control system (GCCS) report for Evergreen RDF. To comply with the monitoring, record keeping and reporting requirements of 40 CFR 63 Subparts AAAA of the National Emission Standards for Hazardous Air Pollutants (NESHAP), the information provided in the NSPS report is submitted on a semi-annual basis. The reporting period covered under this report is January 1, 2015 through June 30, 2015.

The above report is required to be submitted by July 31, 2015.

If you have any questions regarding this submittal, please feel free to contact me at 419-666-5136 ext. 3163 or John Randolph at 419-666-5136 ext. 3168.

Sincerely,

Submitted through OEPA e-Business Center

Steve Lonneman
Senior District Manager
Evergreen RDF

File: Agency Correspondence File
Title V Files

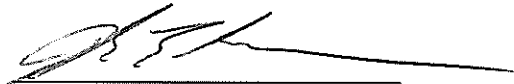
**LANDFILL GAS COLLECTION AND CONTROL
SYSTEM SEMI-ANNUAL REPORT
JANUARY 1, 2015 - JUNE 30, 2015**

**EVERGREEN RECYCLING & DISPOSAL FACILITY
FACILITY ID: 03-87-00-0259**

Prepared for
Waste Management of Ohio
Evergreen Recycling & Disposal Facility
July 17, 2015

Landfill Gas Collection and Control System Semi-annual Report
January 1, 2015 - June 30, 2015
Evergreen Recycling & Disposal Facility
Facility ID: 03-87-00-0259
Northwood, Ohio

The material and data in this report were prepared under the supervision and direction of the undersigned.

A handwritten signature in black ink, appearing to read 'J. Randolph', with a long horizontal line extending to the right.

John E. Randolph, P.E.
District Engineer

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1 INTRODUCTION

1.1 PURPOSE

This document serves as a landfill gas collection and control system (GCCS) semi-annual report for the Evergreen Recycling & Disposal Facility (Evergreen) pursuant to 40 Code of Federal Regulations (CFR) Part 60, Subpart WWW, New Source Performance Standards (NSPS) for municipal solid waste landfill and 40 CFR Part 63, Subparts A and AAAA, National Emissions Standards for Hazardous Air Pollutants (NESHAP) for municipal solid waste landfills. The purpose of this report is to provide performance documentation in accordance with the NSPS requirements for the installed and active portions of the GCCS at the Evergreen facility for the reporting period January 1, 2015 through June 30, 2015.

1.2 RECORD KEEPING AND REPORTING

This report is being submitted pursuant to 40 CFR 60.757(f) and 40 CFR 63.1980. Records will be prepared and maintained in accordance with 40 CFR 60.758 and 40 CFR 63.1980. The primary location for record storage is the Evergreen facility.

2 EXISTING SITE CONDITIONS

2.1 LANDFILL DESCRIPTION

Evergreen is located at 2625 East Broadway Street, Northwood, OH in Wood County. Evergreen is a Municipal Solid Waste Landfill (MSW) and accepts most household and commercial wastes. The Landfill also accepts non-hazardous industrial wastes.

Evergreen is owned and operated by Waste Management of Ohio and serves the residents of Wood County and adjacent counties. Current disposal rates at Evergreen are estimated at 700 tons per day. The total approved design capacity for Evergreen is 25.9 million cubic yards.

2.2 LANDFILL GAS COLLECTION AND CONTROL SYSTEM

Evergreen has installed and currently operates a GCCS for Cells 1 through 11B and the north sanitary landfill. The existing GCCS consists of approximately 93 vertical landfill gas (LFG) extraction wells. These extraction wells convey the LFG from the refuse, through a series of lateral and header pipes. The LFG is conveyed through this pipe network to an open flare with a design capacity of 4,260 standard cubic feet per minute (scfm) and/or sent to the WMRE of Ohio, LLC compressor pipeline.

3 SEMI-ANNUAL REPORT REQUIREMENTS

In accordance with 40 CFR 60.757(f) and 40 CFR 63.1980(a) a semi-annual report must be submitted to the regulatory agency by applicable facilities, which contains performance and monitoring data for the operation of the GCCS.

3.1 SEMI-ANNUAL REPORT REQUIREMENTS

Applicable requirements under the semi-annual report are as follows:

1. Value and length of time for exceedance of parameters monitored under 40 CFR 60.756(a), (b), (c), and (d) which include:
 - a. Monthly recording of gauge pressure at all wellheads, all wells must operate under negative pressure conditions
 - b. Monthly monitoring of oxygen or nitrogen concentrations at all wellheads, oxygen be less than 5% or nitrogen must be less than 20%
 - c. Monthly monitoring of temperatures at all wellheads, temperature be less than 55°C (131°F)
 - d. Report all 3-hour averaging block of numerical continuous parameter (i.e., combustion temperature) monitoring data containing at least one hour of invalid data. A valid hour of data must have measured values for at least three 15-minute monitoring periods system breakdowns, repairs, calibration within the hour. Data collected during any of the events described in 40 CFR 63.1975 (monitoring checks; control device startup, shutdowns and malfunctions) are not to be included in any 3-hour averaging block (40 CFR 63.1955 – 40 CFR 63.1975).
2. Description and duration of all periods when the gas stream was diverted from the control device through a bypass line.
3. Description and duration of all periods when the control device was not operating for greater than one hour and the length of time that the device was not operating.
4. All periods greater than five (5) days when the collection system was not operating.
5. Location and concentration of all surface emission exceedances (≥ 500 ppm above background).
6. Date of installation and location of all wells or system expansions both planned and as the result of monitoring exceedances.

4 SEMI-ANNUAL REPORT

The information included in this section and applicable appendices, satisfies the requirements under 40 CFR 60.757(f) for the semi-annual report.

4.1 WELL FIELD MONITORING

Monitoring data for the GCCS has been collected at a minimum monthly frequency for inclusion in this semi-annual report. Evergreen personnel collect the well field data. Wellhead monitoring data (pressure, temperature, and oxygen concentration) were recorded using a Landtec GEM-2000. The GEM-2000 was calibrated according to manufacturer's recommendations prior to each monitoring event.

Monthly monitoring, corrective measures, and 15-day re-monitoring were conducted at the facility in accordance with the Title V permit and the NSPS regulations. In most cases, there were no exceedances of the operational parameters at the wellheads. A description of the instances when corrective action was needed or did not prove to be sufficient is detailed below.

Immediate corrections were made to the wells which exhibited pressure, temperature, or oxygen exceedances during the time period covered by this report (within 5 days of the initial measured exceedance). All wells were generally re-monitored within 15 days to determine whether additional corrective actions were necessary to achieve proper operating parameter ranges. Exceedances greater than 15 days are noted below.

Monitoring data showing the exceedances and the corrective measures that occurred during this reporting period are included in Appendix A.

4.1.1 PRESSURE

Several pressure deviations were recorded during the reporting period and all deviations were corrected within the 15-day time limit.

4.1.2 TEMPERATURE

There were no temperature deviations during the reporting period.

4.1.3 OXYGEN

Several oxygen deviations were recorded during the reporting period and all deviations were corrected within the 15-day time limit, except for the well listed below.

Well ID/Month/Total days

EVGELCRL (May 19, 2015 – End of reporting period): EVGELCRL was installed in December 2014 to control odors. After the initial reading, it was determined that the connection was made into the large leachate collection riser pipe instead of a smaller 6-inch pipe. The device was immediately shut off by closing the valve. An Alternative Timeline Request was submitted to the Ohio EPA on December 30, 2014. The facility changed the connection from the larger pipe to the smaller pipe when weather permitted. Several readings have been taken at the collector since the repair was made. The collector is still showing elevated oxygen readings. The collector has been temporarily decommissioned.

EVGEW15R (January 27, 2015 – March 12, 2015; 44 days): Corrective action initiated within 5 days by adjusting the pressure at the wellhead. Evergreen submitted an Alternative Timeline Request to the OEPA on February 10, 2015.

EVGNEW28 (November 21, 2014 – end of reporting period): Corrective action initiated within 5 days by adjusting the pressure at the wellhead. Evergreen submitted an Alternative Timeline Request to the OEPA on December 4, 2014 requesting additional time to remove accumulated liquids or abandon the well. The Alternative Timeline Request was approved by the OEPA on December 16, 2014. An Intent to Decommission Notice was submitted on April 3, 2015.

4.2 LFG BYPASS OPERATIONS

During the period encompassed under this report, LFG was not diverted through a bypass line. There is no bypass line installed on the GCCS.

4.3 CONTROL DEVICE OPERATION

The operating record for the open flare was reviewed for the reporting period. Based on the information provided, the flare was not in operation for more than one hour on eight (8) occasions. A summary of the period and duration when the control device was not in operation is included in Appendix B. No LFG was released to the atmosphere during the flare shutdown since the gas collection system is automatically closed off when the control device is shutdown.

4.3.1 GAS FLOW MONITORING DEVICE

Pursuant to 40 CFR 60.756(c)(2)(i), the operator of an open flare shall install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes. The flow at the open flare located at Evergreen is recorded by a Yokogawa digital flow monitoring device. During this reporting period, the Yokogawa digital flow monitoring device malfunctioned zero (0) times.

4.4 COLLECTION SYSTEM OPERATION

During the period encompassed under this report, the gas collection system was not shutdown for more than five days on any occasion.

4.5 SURFACE EMISSIONS MONITORING

Quarterly surface emissions monitoring was performed by WM personnel using a flame ionization detector, or FID as required under 40 CFR 60.754(c)(3).

The 1st quarter 2015 Surface Emissions Monitoring (SEM) event was completed on March 25 and 27, 2015. There were zero (0) locations that showed elevated methane concentrations of 500 ppm above background methane concentration.

The 2nd quarter 2015 SEM event was completed on June 24 and 26, 2015. There were zero (0) locations that showed elevated methane concentrations of 500 ppm above background methane concentration.

Appendix C includes the results of the quarterly surface monitoring events.

4.6 COLLECTION SYSTEM EXPANSION

There was no collection system expansion completed during the reporting period.

APPENDIX A

MONTHLY WELLHEAD MONITORING EXCEEDANCE RESULTS

Evergreen Recycling Disposal Facility
January through June 2015
Well Exceedances

Device Name	Date/Time	O ₂ (Oxygen) (%)	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Initial Temperature (°F)	Adjusted Temperature (°F)	Id Comments	Duration of Exceedance (Days)
EVGELCRL	5/19/2015 14:37	16.1	-46.47	-30.93	62.6	61.2	Barely Open;Dec. Flow/Vac.	EVGELCRL was installed in December 2014 to control odors. An Alternative Timeline Request was submitted to the OEPA on December 30, 2014. The repairs have been made. Due to elevated oxygen readings, the collector has been temporarily decommissioned.
EVGELCRL	5/22/2015 14:04	15.9	-0.01	-0.01	75.6	75.4	Barely Open;Check for Air Leaks	
EVGELCRL	6/12/2015 14:48	6.1	-0.05	-2.59	84.4	82.1	NSPS/EG CAI;Barely Open;Fully Closed;Inc. Flow/Vac.	
EVGELCRL	6/12/2015 14:51	6.6	-10.79	0.07	78.9	81.2	NSPS/EG CAI;Fully Closed;Dec. Flow/Vac.	
EVGETW11	3/11/2015 14:30	0	0.17	-0.12	65.6	65.8	NSPS/EG CAI;Inc. Flow/Vac.;Pump in Well	Immediate Correction Pressure
EVGEW15R	1/27/2015 15:26	20.4	-6	-6	37	37	Fully Open;NSPS/EG CAI;Check Header;Other Well Influence	
EVGEW15R	1/28/2015 11:09	20.2	-7.8	-7.8	34	35	NSPS/EG CAI;Dec. Flow/Vac.;Fully Closed;Check Header;Other Well Influence	
EVGEW15R	2/9/2015 15:14	19.7	-7	-7.1	36	32	NSPS/EG CAI;Fully Closed;No Adj. Made	
EVGEW15R	2/9/2015 15:17	19.5	-6.9	-7.1	24	24	NSPS/EG CAI;Inc. Flow/Vac.;Fully Open;Check Header;Other Well Influence	
EVGEW15R	2/25/2015 16:15	14.8	-3.4	-3.4	22	22	NSPS/EG CAI;Fully Closed;Check Header;Other Well Influence	
EVGEW15R	3/12/2015 16:46	0	-14.84	-14.97	52.2	64.4	Inc. Flow/Vac.;Surging;Other Well Influence	44 Days Oxygen; An Alternative Timeline Request was submitted on February 10, 2015.
EVGEW22R	1/27/2015 15:50	16.7	-8.7	-8.8	37	37	NSPS/EG CAI;Fully Open;Surging;Check Header	
EVGEW22R	1/28/2015 11:13	20.1	-10.2	-10.2	34	35	NSPS/EG CAI;Dec. Flow/Vac.;Fully Closed;Check Header;Other Well Influence	
EVGEW22R	2/4/2015 15:14	0	-5.9	-5.3	38	36	Barely Open;Inc. Flow/Vac.;Surging;Check Header;Other Well Influence	8 Days Oxygen
EVGEW26R	3/24/2015 11:25	8.8	-24.52	-23.1	73.3	72.7	NSPS/EG CAI;Fully Closed;Dec. Flow/Vac.;Check for Air Leaks	
EVGEW26R	4/6/2015 13:24	4.8	-28.77	-29.86	60.7	61.4	Barely Open;Inc. Flow/Vac.;Other Well Influence	13 Days Oxygen

Evergreen Recycling Disposal Facility
January through June 2015
Well Exceedances

Device Name	Date/Time	O ₂ (Oxygen) (%)	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Initial Temperature (°F)	Adjusted Temperature (°F)	Id Comments	Duration of Exceedance (Days)
EVGNEW28	11/21/2014 15:45	19.6	-33.7	-33	35	40	NSPS/EG CAI;Barely Open;Dec. Flow/Vac.;Fully Closed;Watered In	
EVGNEW28	11/25/2014 14:47	18	-18.7	-18.8	34	34	NSPS/EG CAI;Barely Open;Dec. Flow/Vac.;Fully Closed;Surging;Watered In	
EVGNEW28	12/23/2014 14:12	7	-3.9	-9.3	53	50	NSPS/EG CAI;Fully Closed;Inc. Flow/Vac.;Surging;Watered In	
EVGNEW28	12/23/2014 14:14	16	-7.3	-5.2	49	49	NSPS/EG CAI;Dec. Flow/Vac.;Fully Closed;Watered In	
EVGNEW28	1/27/2015 16:20	14.1	0	0	46	45	NSPS/EG CAI;Fully Closed;Watered In	
EVGNEW28	2/25/2015 14:07	20.3	-9.8	-1	45	45	Surging;Dec. Flow/Vac.;Fully Closed;NSPS/EG CAI;Watered In	
EVGNEW28	3/24/2015 11:11	21.4	-5.61	-5.75	36.8	37	NSPS/EG CAI;Fully Closed;Watered In	An Alternative Timeline Request was submitted to the OEPA on December 4, 2014. OEPA approved the Alternative Timeline Request on December 16, 2014. A Decommission Notification was submitted on April 3, 2015.
EVGNEW28	4/14/2015 14:11	19.2	-9	-9.04	62.2	62.5	NSPS/EG CAI;Fully Closed;Other Well Influence	Intent to Decommission Notice was submitted on April 3, 2015.
EVGNEW94	1/22/2015 15:41	0	3.3	-2.9	33	46	NSPS/EG CAI;Inc. Flow/Vac.;Barely Open	Immediate Correction Pressure
EVGNRW-L	4/21/2015 13:40	7.2	-53.88	-34.58	95.8	95.7	NSPS/EG CAI;Fully Open;Dec. Flow/Vac.;Surging;Pump in Well	
EVGNRW-L	4/21/2015 13:43	7.3	-35.72	-31.93	95.3	94.8	NSPS/EG CAI;Dec. Flow/Vac.;Surging;Pump in Well	
EVGNRW-L	4/24/2015 15:20	3.5	-47.35	-34.18	82.8	83.1	Dec. Flow/Vac.;Surging;Pump in Well	3 Days Oxygen

NOTE: Landfill gas extraction well EVGNEW28 was decommissioned during the reporting period. An Intent to Decommission notification was submitted on April 3, 2015.

APPENDIX B

CONTROL DEVICE DOWNTIME RECORDS

Appendix B
Description of all Downtime Events Greater than 1 Hour
Reporting Period January 1, 2015 to June 30, 2015

Date(s) of Event	Duration of Event (Hours)	Equipment Affected	Description of Downtime
01/07/15	1.90	Collection System	Discharge pressure control valve frozen
01/17/15	1.63	Collection System	Plant related; High discharge pressure shutdown
01/20/15 – 01/21/15	3.97	Collection System	Flare pressure control valve stuck; Resulted in high discharge pressure shutdown.
03/02/15	2.80	Collection System	Flare air compressor shutdown resulting in flare auto shutdown
03/02/15	1.23	Collection System	Utility related auto shutdown
04/01/15 – 04/02/15	2.20	Collection System	Flare blower 1 fault
05/06/15	13.33	Collection System	Flare air compressor shutdown resulting in flare auto shutdown
06/27/15	1.13	Collection System	Plant related; High discharge pressure shutdown

APPENDIX C

QUARTERLY SURFACE EMISSIONS MONITORING RESULTS



TO: John Randolph
FROM: Beth Shiverdecker
CC: Steve Lonneman, Brian Farmer, Rodney Nemeth
RE: 1st Quarter 2015 Surface Emissions Monitoring Report
Evergreen Landfill
DATE: April 16, 2015

Waste Management completed the 1st Quarter Surface Emissions Monitoring (SEM) event at Evergreen Landfill located at 2625 East Broadway, Northwood, Ohio on March 25 and 27, 2015. The monitoring was conducted in accordance with the requirements set forth in the New Source Performance Standard (NSPS), 40 CFR 60.755 (c) and (d) and 40 CFR 60, Appendix A, Method 21, promulgated by the USEPA. A Photovac (Micro FID) Flame ionization detector was used to perform the emissions monitoring and was calibrated in accordance with USEPA Method 21. Prior to monitoring being completed background concentrations were taken upwind and downwind of the landfill footprint and the technician was approximately 100 feet away from the perimeter of the landfill for this calibration event. Once background was established the technician conducted continuous monitoring of the surface of the landfill by following the serpentine pattern established for the facility, giving special attention to monitoring unusual cover conditions (i.e. stressed vegetation, cracks, seeps), and any areas with unusual odors. Areas with active gas collection components including landfill gas wells, aboveground exposed landfill gas collection system components, and leachate structures were monitored as well. Active waste disposal areas and steep slopes were excluded for safety purposes.

MONITORING SUMMARY

At the time of the initial survey, there were no areas of FID reading greater than 500-ppm methane detected above background measurements.

During all events, the technician would make observations of the ground surface of the landfill and noted that surface areas appeared to be in good condition, and no unusual odors were detected. All field and calibration logs completed by the field tech are included with this summary as attachments.



Weather Conditions - During Surface Emissions Monitoring Evergreen Landfill

Date	Initial	Temperature	Wind	Conditions
	10-day re-monitor			
	30-day re-monitor			
3/25/2015	Initial (Uncapped Areas)	40 degrees F	10-25 mph - ENE	AM Rain, Windy
3/27/2015	Initial (North and South Capped Areas)	25 degrees F	10-15 mph - NNW	Overcast



Table 1
Calibration Precision Test Record

EVERGREEN LANDFILL - Uncapped Areas

Date: 03/25/15	Expiration Date: 06/25/15
Time: 13:00	Calibration Gas Standard: 500 ppm (STD)
Instrument Make: Photovac #CZTM303	Instrument Model: Micro FID

Measurement #1		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	498.0	ppm
Measurement #2		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	498.0	ppm
Measurement #3		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	500.0	ppm

Calculate Precision*:		
$\frac{\#1 + \#2 + \#3}{3} \times \frac{1}{500} \times 100$	0.27%	<10%

Performed by: Brian Farmer

*Per 40 CFR 60, Appendix A, Method 21 (8.1.2.2), the calibration precision shall be equal to or less than 10 percent of the calibration gas value.



Table 1
Calibration Precision Test Record

EVERGREEN LANDFILL - North and South Capped Areas

Date: 03/27/15	Expiration Date: 06/27/15
Time: 9:00 AM	Calibration Gas Standard: 500 ppm (STD)
Instrument Make: Photovac #CZTM303	Instrument Model: Micro FID

Measurement #1		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	498.0	ppm
Measurement #2		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	498.0	ppm
Measurement #3		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	497.0	ppm

Calculate Precision*:		
$\frac{\#1 + \#2 + \#3}{3} \times \frac{1}{500} \times 100$	0.47%	<10%

Performed by: Brian Farmer

*Per 40 CFR 60, Appendix A, Method 21 (8.1.2.2), the calibration precision shall be equal to or less than 10 percent of the calibration gas value.



Table 2
Response Time Test Record

EVERGREEN LANDFILL - Uncapped Areas

Date:	Time:
3/25/2015	1:00 PM
Instrument Make:	Instrument Model:
Photovac #CZTM303	Micro FID

Measurement #1		
Stabilized Reading Using Calibration Gas:	498.0	ppm
90% of the Stabilized Reading:	448.2	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	10	seconds (1)
Measurement #2		
Stabilized Reading Using Calibration Gas:	498.0	ppm
90% of the Stabilized Reading:	448.2	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	10	seconds (2)
Measurement #3		
Stabilized Reading Using Calibration Gas:	500.0	ppm
90% of the Stabilized Reading:	450	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	10	seconds (3)

Calculate Response Time*:		
$\frac{(1) + (2) + (3)}{3}$	10.00	seconds

Performed by: Brian Farmer

*Per 40 CFR 60, Appendix A, Method 21 (8.1.3.2), the instrument response time shall be equal to or less than 30 seconds.



Table 2
Response Time Test Record

EVERGREEN LANDFILL - North and South Capped Areas

Date: 3/27/2015	Time: 9:00 AM
Instrument Make: Photovac #CZTM303	Instrument Model: Micro FID

Measurement #1		
Stabilized Reading Using Calibration Gas:	498.0	ppm
90% of the Stabilized Reading:	448.2	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	11	seconds (1)

Measurement #2		
Stabilized Reading Using Calibration Gas:	498.0	ppm
90% of the Stabilized Reading:	448.2	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	10	seconds (2)

Measurement #3		
Stabilized Reading Using Calibration Gas:	497.0	ppm
90% of the Stabilized Reading:	447.3	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	11	seconds (3)

Calculate Response Time*:		
$\frac{(1) + (2) + (3)}{3}$	10.67	seconds

Performed by: Brian Farmer

*Per 40 CFR 60, Appendix A, Method 21 (8.1.3.2), the instrument response time shall be equal to or less than 30 seconds.



Table 3
Calibration Procedure, Background Determination, and Post-Monitoring
Calibration Check

EVERGREEN LANDFILL - Uncapped Areas

Date: 3/25/2015	Time: 6:00 PM
Instrument Make: Photovac #CZTM303	Instrument Model: Micro FID

Calibration Procedure:		
1. Allow instrument to warm up according to manufacturer's instructions.		
2. Introduce calibration gas to probe.		
Calibration gas standard	500.0	ppm
Stable instrument reading	500.0	ppm
3. Follow instrument calibration procedure per the manufacturer's instructions.		
Background Determination Procedure		
1. Upwind Reading		
(highest in 30 seconds)	0.0	ppm (1)
2. Downwind Reading		
(highest in 30 seconds)	0.0	ppm (2)
Calculate Background Value:		
$\frac{(1) + (2)}{2}$	0.0	ppm
Post Monitoring Calibration Check		
1. Zero Air	0.0	ppm
2. 500 ppm	475.0	ppm

Performed by: Brian Farmer



Table 3
Calibration Procedure, Background Determination, and Post-Monitoring
Calibration Check

EVERGREEN LANDFILL - North and South Capped Areas

Date: 3/27/2015	Time: 12:00 PM
Instrument Make: Photovac #CZTM303	Instrument Model: Micro FID

Calibration Procedure:		
1. Allow instrument to warm up according to manufacturer's instructions.		
2. Introduce calibration gas to probe.		
Calibration gas standard	500.0	ppm
Stable instrument reading	498.0	ppm
3. Follow instrument calibration procedure per the manufacturer's instructions.		
Background Determination Procedure		
1. Upwind Reading		
(highest in 30 seconds)	0.0	ppm (1)
2. Downwind Reading		
(highest in 30 seconds)	0.0	ppm (2)
Calculate Background Value:		
$\frac{(1) + (2)}{2}$	0.0	ppm
Post Monitoring Calibration Check		
1. Zero Air	0.0	ppm
2. 500 ppm	482.0	ppm

Performed by: Brian Farmer



Table 4
Surface Monitoring Exceedance Log

EVERGREEN LANDFILL - Uncapped Areas

Sampler ID: Brian Farmer	Instrument Make/Model: Photovac #CZTM303 / Micro FID
Date: 03/25/15	Barometric Pressure: 29.87" Hg
Weather: 40 degrees F, AM Rain, Windy	Wind: 10-25 mph ENE

X	NO EXCEEDANCES OBSERVED ON THESE DATES
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Surface Monitoring Point	Background Concentration (ppm)	Methane Concentration (ppm)	Comments
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			



Table 4
Surface Monitoring Exceedance Log

EVERGREEN LANDFILL - North and South Capped Areas

Sampler ID: Brian Farmer	Instrument Make/Model: Photovac #CZTM303 / Micro FID
Date: 03/27/15	Barometric Pressure: 30.05" Hg
Weather: 25 degrees F, Overcast	Wind: 10-15 mph NNW

X	NO EXCEEDANCES OBSERVED ON THESE DATES
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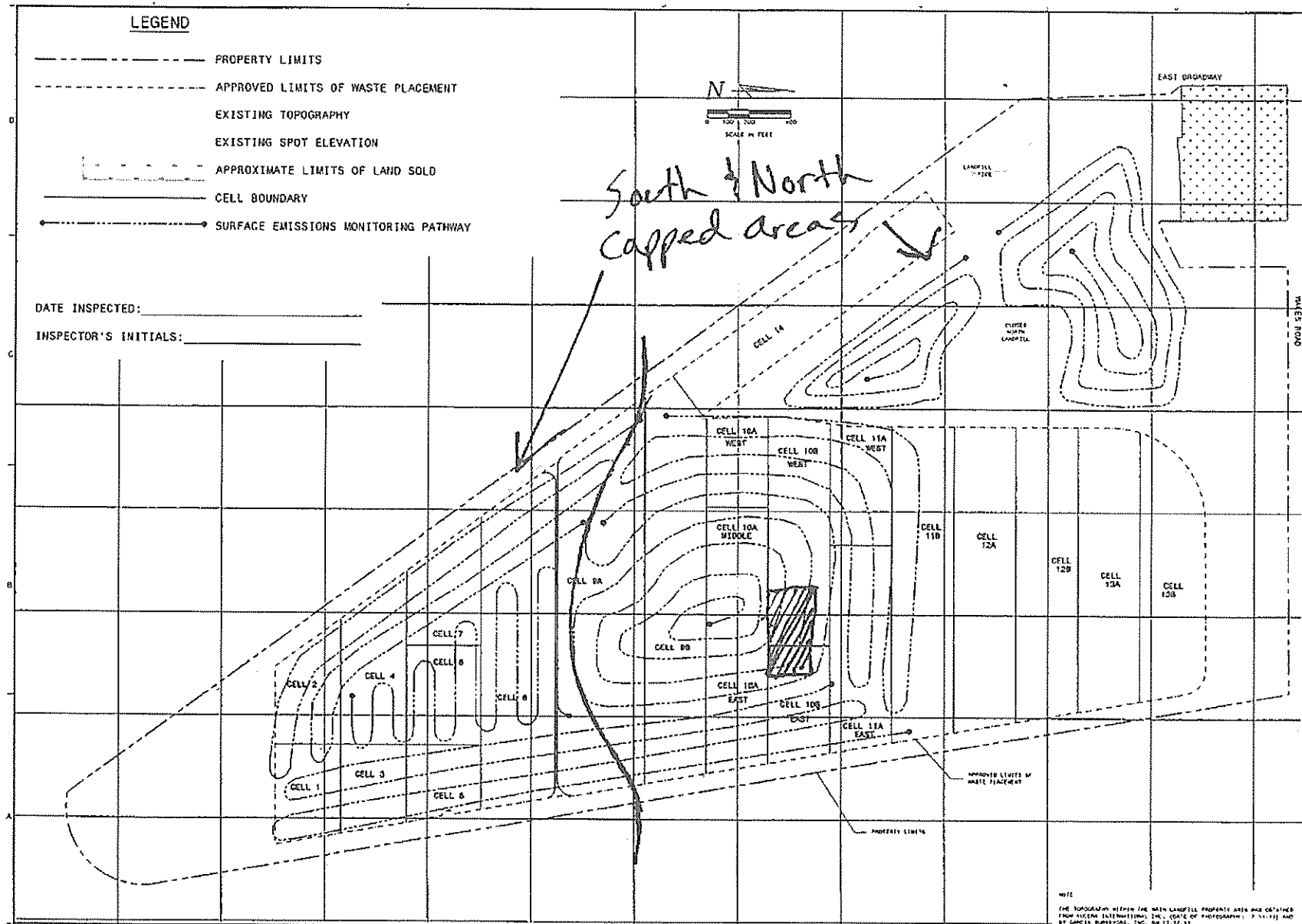
Surface Monitoring Point	Background Concentration (ppm)	Methane Concentration (ppm)	Comments
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LEGEND

- PROPERTY LIMITS
- APPROVED LIMITS OF WASTE PLACEMENT
- EXISTING TOPOGRAPHY
- EXISTING SPOT ELEVATION
- APPROXIMATE LIMITS OF LAND SOLD
- CELL BOUNDARY
- SURFACE EMISSIONS MONITORING PATHWAY

DATE INSPECTED: _____

INSPECTOR'S INITIALS: _____



Hull
 & ASSOCIATES, INC.
 10000 W. 100th St., Suite 100
 Overland Park, KS 66211
 (913) 661-1111

EVERGREEN RECYCLING AND DISPOSAL FACILITY, INC.

EVERGREEN RECYCLING AND DISPOSAL FACILITY, INC.
 2025 EAST BACKBAY
 AGATHA, OHIO 43018

DATE OF INSPECTION: _____
 BY: _____
 FOR: _____
 PROJECT NO.: 000110
 JOB NO.: 000110
 PLAN NO.: 000110
 SCALE: 1" = 100'
 DATE: 11/11/11
 DRAWN BY: JAC
 CHECKED BY: JAC
 DATE: 11/11/11
 SCALE: AS SHOWN
 SHEET NO.: 001
 TOTAL SHEETS: 001

C-101

INSTRUMENT CALIBRATION REPORT



Pine Environmental Services, LLC.

5170 Hudson Drive, Suite E

Hudson, OH 44236

Toll-free: (877) 326-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 11445
Description Photovac Micro FID
Calibrated 3/13/2015 1:52:32PM

Manufacturer Photovac
Model Number Micro FID
Serial Number/ Lot CZTM303
Number
Location Ohio
Department

State Certified
Status Pass
Temp °C 20.7
Humidity % 23

Calibration Specifications

Group # 1		Range Acc % 0.0000					
Group Name Methane CH4		Reading Acc % 3.0000					
Stated Accy Pct of Reading		Plus/Minus 0.00					
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>End As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
500.00 / 500.00	PPM	500.00	PPM	498.70	501.20	0.24%	Pass
10000.00 / 10000.00	PPM	10000.00	PPM	9,978.00	9,998.00	-0.02%	Pass

Test Instruments Used During the Calibration

<u>Test Standard ID</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number / Lot Number</u>	<u>(As Of Cal Entry Date)</u>	
					<u>Last Cal Date /</u>	<u>Next Cal Date /</u>
OH 500PPM CH4	OH CH4 500	Spec Air	GP12029	0209FA11	<u>Opened Date</u>	3/20/2015
OH CH4 10000-PPM (1%)	OH CH4 10000 007368	Pine Environmental Services, Inc.	GP12050	MAL150a1000 01	12/1/2015	

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kurt Cessna

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663
www.pinc-environmental.com



TO: John Randolph
FROM: Beth Shiverdecker
CC: Steve Lonneman, Brian Farmer, Rodney Nemeth
RE: 2nd Quarter 2015 Surface Emissions Monitoring Report
Evergreen Landfill
DATE: July 6, 2015

Waste Management completed the 2nd Quarter Surface Emissions Monitoring (SEM) event at Evergreen Landfill located at 2625 East Broadway, Northwood, Ohio on June 24 and 26, 2015. The monitoring was conducted in accordance with the requirements set forth in the New Source Performance Standard (NSPS), 40 CFR 60.755 (c) and (d) and 40 CFR 60, Appendix A, Method 21, promulgated by the USEPA. A Photovac (Micro FID) Flame ionization detector was used to perform the emissions monitoring and was calibrated in accordance with USEPA Method 21. Prior to monitoring being completed background concentrations were taken upwind and downwind of the landfill footprint and the technician was approximately 100 feet away from the perimeter of the landfill for this calibration event. Once background was established the technician conducted continuous monitoring of the surface of the landfill by following the serpentine pattern established for the facility, giving special attention to monitoring unusual cover conditions (i.e. stressed vegetation, cracks, seeps), and any areas with unusual odors. Areas with active gas collection components including landfill gas wells, aboveground exposed landfill gas collection system components, and leachate structures were monitored as well. Active waste disposal areas and steep slopes were excluded for safety purposes.

MONITORING SUMMARY

At the time of the initial survey, there were no areas of FID reading greater than 500-ppm methane detected above background measurements.

During all events, the technician would make observations of the ground surface of the landfill and noted that surface areas appeared to be in good condition, and no unusual odors were detected. All field and calibration logs completed by the field tech are included with this summary as attachments.



Weather Conditions - During Surface Emissions Monitoring Evergreen Landfill

Date	Initial	Temperature	Wind	Conditions
	10-day re-monitor			
	30-day re-monitor			
6/24/2015	Initial (Uncapped Areas)	80 degrees F	5-10 mph - NE	Partly Cloudy
6/26/2015	Initial (North and South Capped Areas)	75 degrees F	10-15 mph - NNE	Cloudy/Light Rain



Table 1
Calibration Precision Test Record

EVERGREEN LANDFILL - Uncapped Areas

Date: 06/24/15	Expiration Date: 09/24/15
Time: 13:00	Calibration Gas Standard: 500 ppm (STD)
Instrument Make: Photovac #CZMD317	Instrument Model: Micro FID

Measurement #1		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	499.0	ppm
Measurement #2		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	499.0	ppm
Measurement #3		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	498.0	ppm

Calculate Precision*:		
$\frac{\#1+\#2+\#3}{3} \times \frac{1}{500} \times 100$	0.27%	<10%

Performed by: Brian Farmer

*Per 40 CFR 60, Appendix A, Method 21 (8.1.2.2), the calibration precision shall be equal to or less than 10 percent of the calibration gas value.



Table 1
Calibration Precision Test Record

EVERGREEN LANDFILL - North and South Capped Areas

Date: 06/26/15	Expiration Date: 09/26/15
Time: 10:00 AM	Calibration Gas Standard: 500 ppm (STD)
Instrument Make: Photovac #CZMD317	Instrument Model: Micro FID

Measurement #1		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	500.0	ppm
Measurement #2		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	500.0	ppm
Measurement #3		
Meter Reading for Zero Air:	0.0	ppm
Meter Reading for Calibration Gas:	498.0	ppm

Calculate Precision*:		
$\frac{\#1+\#2+\#3}{3} \times \frac{1}{500} \times 100$	0.13%	<10%

Performed by: Brian Farmer

*Per 40 CFR 60, Appendix A, Method 21 (8.1.2.2), the calibration precision shall be equal to or less than 10 percent of the calibration gas value.



Table 2
Response Time Test Record

EVERGREEN LANDFILL - Uncapped Areas

Date: 6/24/2015	Time: 1:00 PM
Instrument Make: Photovac #CZMD317	Instrument Model: Micro FID

Measurement #1

Stabilized Reading Using Calibration Gas:	499.0	ppm
90% of the Stabilized Reading:	449.1	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	12	seconds (1)

Measurement #2

Stabilized Reading Using Calibration Gas:	499.0	ppm
90% of the Stabilized Reading:	449.1	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	12	seconds (2)

Measurement #3

Stabilized Reading Using Calibration Gas:	498.0	ppm
90% of the Stabilized Reading:	448.2	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	13	seconds (3)

Calculate Response Time*:

$\frac{(1) + (2) + (3)}{3}$	12.33	seconds
-----------------------------	-------	---------

Performed by: Brian Farmer

*Per 40 CFR 60, Appendix A, Method 21 (8.1.3.2), the instrument response time shall be equal to or less than 30 seconds.



Table 2
Response Time Test Record

EVERGREEN LANDFILL - North and South Capped Areas

Date:	Time:
6/26/2015	10:00 AM
Instrument Make:	Instrument Model:
Photovac #CZMD317	Micro FID

Measurement #1		
Stabilized Reading Using Calibration Gas:	500.0	ppm
90% of the Stabilized Reading:	450.0	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	12	seconds (1)
Measurement #2		
Stabilized Reading Using Calibration Gas:	500.0	ppm
90% of the Stabilized Reading:	450	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	12	seconds (2)
Measurement #3		
Stabilized Reading Using Calibration Gas:	498.0	ppm
90% of the Stabilized Reading:	448.2	ppm
Time to Reach 90% of Stabilized Reading after Switching from Zero Air to Calibration Gas:	11	seconds (3)

Calculate Response Time*:		
$\frac{(1) + (2) + (3)}{3}$	11.67	seconds

Performed by: Brian Farmer

*Per 40 CFR 60, Appendix A, Method 21 (8.1.3.2), the instrument response time shall be equal to or less than 30 seconds.



Table 3
Calibration Procedure, Background Determination, and Post-Monitoring
Calibration Check

EVERGREEN LANDFILL - Uncapped Areas

Date: 6/24/2015	Time: 6:00 PM
Instrument Make: Photovac #CZMD317	Instrument Model: Micro FID

Calibration Procedure:		
1. Allow instrument to warm up according to manufacturer's instructions.		
2. Introduce calibration gas to probe.		
Calibration gas standard	500.0	ppm
Stable instrument reading	499.0	ppm
3. Follow instrument calibration procedure per the manufacturer's instructions.		
Background Determination Procedure		
1. Upwind Reading		
(highest in 30 seconds)	0.0	ppm (1)
2. Downwind Reading		
(highest in 30 seconds)	0.0	ppm (2)
Calculate Background Value:		
$\frac{(1) + (2)}{2}$	0.0	ppm
Post Monitoring Calibration Check		
1. Zero Air	0.0	ppm
2. 500 ppm	479.0	ppm

Performed by: Brian Farmer



Table 3
Calibration Procedure, Background Determination, and Post-Monitoring
Calibration Check

EVERGREEN LANDFILL - North and South Capped Areas

Date: 6/26/2015	Time: 6:00 PM
Instrument Make: Photovac #CZMD317	Instrument Model: Micro FID

Calibration Procedure:		
1. Allow instrument to warm up according to manufacturer's instructions.		
2. Introduce calibration gas to probe.		
Calibration gas standard	500.0	ppm
Stable instrument reading	500.0	ppm
3. Follow instrument calibration procedure per the manufacturer's instructions.		
Background Determination Procedure		
1. Upwind Reading		
(highest in 30 seconds)	0.0	ppm (1)
2. Downwind Reading		
(highest in 30 seconds)	0.0	ppm (2)
Calculate Background Value:		
$\frac{(1) + (2)}{2}$	0.0	ppm
Post Monitoring Calibration Check		
1. Zero Air	0.0	ppm
2. 500 ppm	480.0	ppm

Performed by: Brian Farmer



Table 4
Surface Monitoring Exceedance Log

EVERGREEN LANDFILL - Uncapped Areas

Sampler ID: Brian Farmer	Instrument Make/Model: Photovac #CZMD317 / Micro FID
Date: 06/24/15	Barometric Pressure: 30.15" Hg
Weather: 80 degrees F, Partly Cloudy	Wind: 5-10 mph NE

X	NO EXCEEDANCES OBSERVED ON THESE DATES
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Surface Monitoring Point	Background Concentration (ppm)	Methane Concentration (ppm)	Comments
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Table 4
Surface Monitoring Exceedance Log

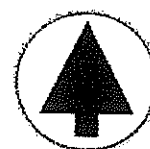
EVERGREEN LANDFILL - North and South Capped Areas

Sampler ID: Brian Farmer	Instrument Make/Model: Photovac #CZMD317 / Micro FID
Date: 06/26/15	Barometric Pressure: 30.04" Hg
Weather: 75 degrees F, Cloudy/Light Rain	Wind: 10-15 mph NNE

X	NO EXCEEDANCES OBSERVED ON THESE DATES
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Surface Monitoring Point	Background Concentration (ppm)	Methane Concentration (ppm)	Comments
1			
2			
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Working Face



INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, LLC.

92 North Main St, Building 20

Windsor, NJ 08561

Toll-free: (800) 301-9663

Pine Environmental Services, Inc.

Instrument ID 3306
Description Micro-FID
Calibrated 6/23/2015 9:08:44AM

Manufacturer Photovac
Model Number Micro FID
Serial Number/ Lot CZMD317
Number
Location New Jersey
Department

State Certified
Status Pass
Temp °C 25.4
Humidity % 61

Calibration Specifications

Group # 1
Group Name Methane CH4
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
10000.00 / 10000.00	PPM	10000.00	PPM	10,000.00	10,000.00	0.00%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

<u>Test Standard ID</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number / Lot Number</u>	<u>Next Cal Date / Last Cal Date/ Expiration Date</u>
NJ CH4 10000 -	NJ CH4 10000 PPM	Liquid	GP12049	IAO-135A-1-7	8/18/2018
IAO-135A-1-7	34Liters IAO-135A-1-7	Technology			

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Nasser Elsowiny

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance